Georgia-Pacific

Georgia-Pacific LLC

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February 3, 2012

Ms. Sue Foune
Environmental Service Manager
City of Kalamazoo
Public Service Department
1415 North Harrison Street
Kalamazoo, MI 49007-2565

Subject:
Georgia-Pac-Willow Blvd-OU2-SF
2011 Phosphorus Point Source Reduction and Discharge

Dear Ms. Foune,

Georgia-Pacific LLC (Georgia-Pacific) is pleased to submit this letter summarizing efforts to reduce phosphorus loading to the Kalamazoo River during the construction and remedial activities near the Willow Boulevard/A-Site Operable Unit (OU). This letter also summarizes analytical results for effluent samples and the estimated total quantity of phosphorus discharged to the river in 2011.

The loading of phosphorus to the river during remedial activities was minimized by applying sediment management and water treatment techniques during active construction. Material excavated near the river was removed using an open-bucket excavator, and the excavation area was isolated from the river using a sheetpile wall and turbidity curtain. Excavated material was then transported via truck to the designated consolidation area within the Willow Boulevard Landfill. Storm water was collected and treated in a multi-media filtration and carbon adsorption water treatment system prior to discharge to the Kalamazoo River.

During the period from August 8 through November 10, 2011, Georgia-Pacific treated and discharged a total of 3,611,839 gallons of water. In accordance with Substantive Requirements Document (SRD) MIU990030, water was treated and discharged as needed at Outfall 001. The volume of water treated and discharged was recorded daily and summarized on a monthly basis. The required influent, mid-point, and effluent sampling and analysis was also conducted as required by the SRD, and the analytical results retained with the treatment and discharge data in the year-to-date log. Analytical and discharge volume data were used to calculate monthly loading quantities. The year-to-date log is available for review by request. All samples were analyzed for polychlorinated biphenyl and total suspended solids. In accordance with the SRD, total phosphorus (P) data were collected once a month as described below.

Effluent samples from four discharge batches – August 22, September 6, October 3, and November 2 - were submitted to Test America Laboratories in Burlington, Vermont for analysis of P in accordance with United States Environmental Protection Agency SW846 Method SM 4500-P.E, B5. The reported total phosphorus concentrations ranged between 0.01 and 0.18 milligrams per liter (mg/L) with a volume-weighted average P discharge of 0.12 mg/L ($1.0 * 10^{-6}$ pounds per gallon). Based on this average, an estimated total of 3.7 pounds of phosphorus was discharged in 2011. See Table 1 for additional information.

Construction work associated with the Willow Boulevard/A-Site Landfill OU will resume in March 2012 following the winter shutdown period and is expected to continue through 2012. Discharge is expected to occur from Outfall 003 in 2012.

Should you have any questions or comments, please do not hesitate to contact me at 734.735.0780.

Sincerely,

Garry Griffith
Director – Environmental Field Services

cc: Alvin Lam, MDEQ
Michael Bray, MDEQ
Kristi Zakrzewski, P.E., MDEQ
Michael Berkoff, USEPA
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Georgia-Pacific LLC
Allied Paper, Inc./Portage Creek/Kalamazoo River Superfund Site
Willow Boulevard/A-Site OU
SRD MIU990030

Table 1 - Summary of Phosphorus Sampling and Discharge in 2011

Discharge Period	Discharge Volume (gal)	Total Phosphorus Concentration (mg/L)[1]
8/8/2011-8/22/2011	149,087	0.024
8/23/2011-9/6/2011	737,827	0.075
9/7/2011-10/3/2011	1,060,915	0.081
10/4/2011-11/10/2011	1,664,010	0.18
Volume-weighted average discharge (mg/L)[1]		0.12
Total Discharge (gal)[2]		3,611,839
Total Mass P Discharged (lbs)[2]		3.7

Notes:
1 - Effluent concentrations averaged where applicable.
2 - For all water discharged in 2011.

gal - gallons
lbs - pounds
mg/L - milligrams per liter
P - total phosphorus

Conversion Factors:
1 gal = 3.78 L
1 mg = $2.2 * 10^{-6}$ lbs